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10/803,679

03/18/2004

Robert L. Koelzer

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07/16/2007

ST. ONGE STEWARD JOHNSTON & REENS, LLC

986 BEDFORD STREET

STAMFORD, CT 06905-5619

EXAMINER

STIMPert, PHILIP EARL

ART UNIT

PAPER NUMBER

3709

MAIL DATE

DELIVERY MODE

07/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/803,679

Applicant(s)

KOELZER ET AL.

Examiner

Philip E. Stimpert

Art Unit

3709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 4-7, 9, 11-24 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 10 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March, 2004 and 14 June, 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7 Jun 04, 24 Jan 07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Acknowledgements

1. The examiner acknowledges that the applicant has submitted corrected drawings for Figs. 10A-F. Further, the examiner acknowledges that the applicant correctly pointed out an error in the description of the groups in the previous election requirement, mailed 15 May, 2007.

Election/Restrictions

2. Applicant's election without traverse of species 2, subspecies 3J, directed towards a swash plate having two portions connected by a sealed, double row, angular contact bearing in the reply filed on 14 June, 2007 is acknowledged.
3. Claims 4-7, 9, 11-24, and 26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 14 June, 2007.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al. (US 2001/0008607).

6. Regarding claim 1, Fujii et al. teach a compressor, comprising:

- a housing (11-14)
- a shaft (17) disposed in the housing and having a longitudinal axis
- an inner swash plate portion (22) attached to the shaft (paragraph 24) at a fixed angle (Fig. 1) to the longitudinal axis of the shaft
- an outer swash plate portion (26) coupled to the inner swash plate portion (22)
- a bearing assembly (24, 25) by which the outer swash plate portion (26) is coupled to the inner swash plate portion (22).

Further, Fujii et al. teach that the bearing assembly (24, 25) is adapted to accommodate both radial load and axial load of the swash plate portions (paragraph 25, "thrust bearing" and "radial bearing").

7. Regarding claim 2, Fujii et al. teach that the inner swash plate (22) is integrally formed (paragraph 24) with the shaft (17).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3, 8, 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al. in view of Frase et al. (US 4,526,485).

10. Regarding claim 3, Fujii et al. teach the invention of claim 1 (see above rejection of claim 1 under 35 U.S.C. 102(b) for discussion). Fujii et al. do not teach that the bearing assembly comprises an angular contact bearing. Frase et al. teach a sealed rolling element bearing which, as shown in Fig. 1 of Frase et al. comprises an angular contact bearing. In particular, Frase et al. teach that their sealed bearings have several benefits, including simplification of design (col. 1, ln. 12-13), reduction of problems in assembly (col. 1, ln. 15-18), and prevention of fouling damage to the bearing (col. 1, ln. 37-40 and 47-50). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the compressor of Fujii et al. to substitute the bearing assembly provided with an angular contact bearing as taught by Frase et al. in order to simplify construction and prevent fouling damage to the bearing. The angular contact bearing could be provided surrounding element 22B and within 26. It should be noted that the bearing assembly disclosed by Frase et al. would be capable of bearing both the axial and radial loads of the swash plate portions, due to its nature as a double row angular contact bearing (Fig. 1).

11. Regarding claim 8, the combined references teach the limitation that the bearing assembly is a double row angular contact bearing (Fig. 1).

12. Regarding claim 10, the combined references teach the limitation that the bearing is a sealed double row bearing (Fig. 1).

13. Regarding claim 25, the combined references teach a compressor, comprising

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- a housing (Fujii et al., 11-14)
- a shaft (17) disposed in the housing and having a longitudinal axis
- an inner swash plate portion (22) attached to the shaft (paragraph 24) at a fixed angle (Fig. 1) to the longitudinal axis of the shaft
- an outer swash plate portion (26) coupled to the inner swash plate portion (22)
- an angular contact bearing (Frase et al., 1) by which said outer swash plate portion (26) is coupled to said inner swash plate portion (22).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip E. Stimpert whose telephone number is (571) 270-1890. The examiner can normally be reached on Mon-Fri 8:00AM-5:00PM, Alt. Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571) 272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

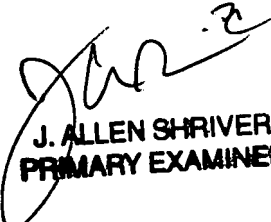
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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26 Jun 07


J. ALLEN SHRIVER
PRIMARY EXAMINER